

ABSTRACT

Fibers melt-spun from a thermoplastic alternating copolymer composed of alkenes and carbon monoxide have a

- tenacity $BT > 900 \text{ mN/tex}$,
- 5 - melting point $T_m > 220^\circ\text{C}$,
- crystallinity $V_c > 33\%$, and
- birefringence $\Delta n > 0.0550$.

These fibers are prepared by melt-spinning the copolymer and then drawing the resulting fibers, the spinning process being conducted using a polymer melt
10 free of crystallization nuclei at a temperature of at most 40K above the melting temperature of the polymer T_m (in K) and the drawing of the fibers being conducted at a temperature in the range of $T_{mc} - 15\text{K}$ to $T_{mc} - 90\text{K}$, with T_{mc} representing the constrained melting temperature, at a draw ratio in the range of 5 to 12 and a drawing tension corrected for temperature $DT_{d,corr}$ in the range
15 of 105 to 300 mN/tex . The fibers are pre-eminently suitable for use as reinforcing yarn in rubber articles such as car tires.